

## Will there still be a market price for CERs and ERUs in two years time?

Medium-term (i.e. pre-2015) demand for credits from the EU ETS and secondary sources of demand appears to be limited to 1.6 billion tCO<sub>2</sub>e. The supply of Kyoto credits is relatively predictable, and will cover demand between now and 2013-2014 according to our base-case scenario. Our view is that the demand-supply equilibrium will lead to a decorrelation between the price of Kyoto credits and the EUA price, and may lead to a price for Kyoto credits that is very low, or almost nil. Unless CER and ERU demand-side policies are modified, we do not foresee any rebound in CER and ERU prices beyond the current year.

### Background: limited demand for CERs and ERUs from the EU ETS between now and 2015, and excess supply

*Demand from the EU ETS “engine” is estimated at 1.3 billion tCO<sub>2</sub>e between 2008 and 2020, and is finite*

Each existing installation in the EU ETS is allowed to use for compliance a finite amount of Kyoto credits (Certified Emission Reductions – CERs - and Emission Reduction Units – ERUs - combined). We estimate that the maximum demand stemming from the EU ETS, which also takes into account new sectors, including aviation, and the reserve for new entrants is close to 1.65 billion tonnes between now and 2020<sup>1</sup>. For further details, see Delbosc *et al.* (2011).

In addition, some installations are choosing not to make use of their option to surrender credits, which reduces the apparent ETS demand by the same amount. This internal restriction is estimated at 300 million tCO<sub>2</sub>e, i.e. 20% of the total. **We thus estimate the EU ETS demand at 1.3 billion tCO<sub>2</sub>e<sup>2</sup>.**

*The other sources of demand amount to 300 million tCO<sub>2</sub>e between 2008 and 2015*

Apparently, there will be no other significant source of demand from the private sector outside the EU ETS, until the setting-up of the Australian ETS, and the possible Chinese ETS, i.e. in 2015 at the earliest.

However, a portion of the credits has already been bought or secured on a forward basis by European countries and Japan, and by the Japanese private sector. This source of demand will absorb around 300 million tCO<sub>2</sub>e according to the World Bank (Linacre *et al.*, 2011). The World Bank also estimated that there was residual demand for 100 million tCO<sub>2</sub>e in European countries; however, this demand will no doubt have mostly disappeared following the reduction in European emissions caused by the economic downturn.

**In total, the medium-term (i.e. pre-2015) demand for credits from the EU ETS and secondary sources of demand appears to be limited to a 1.6-1.9 billion tCO<sub>2</sub>e range.**

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1 Our precise estimate is 1.638 billion tCO<sub>2</sub>e. Most estimates fall within a 1.6-1.7 corridor. For example, the Deutsche Bank assessed the import limit at 1.685 billion tCO<sub>2</sub>e.

2 Between 2008 and 2010, 300Mt of international credits have been surrendered by 4,027 EU ETS installations. These installations represent 58% of the cumulated rights to surrender Kyoto credits.

**The CER supply is a “tanker”, which currently issues around 300 million tCO<sub>2</sub>e per year**

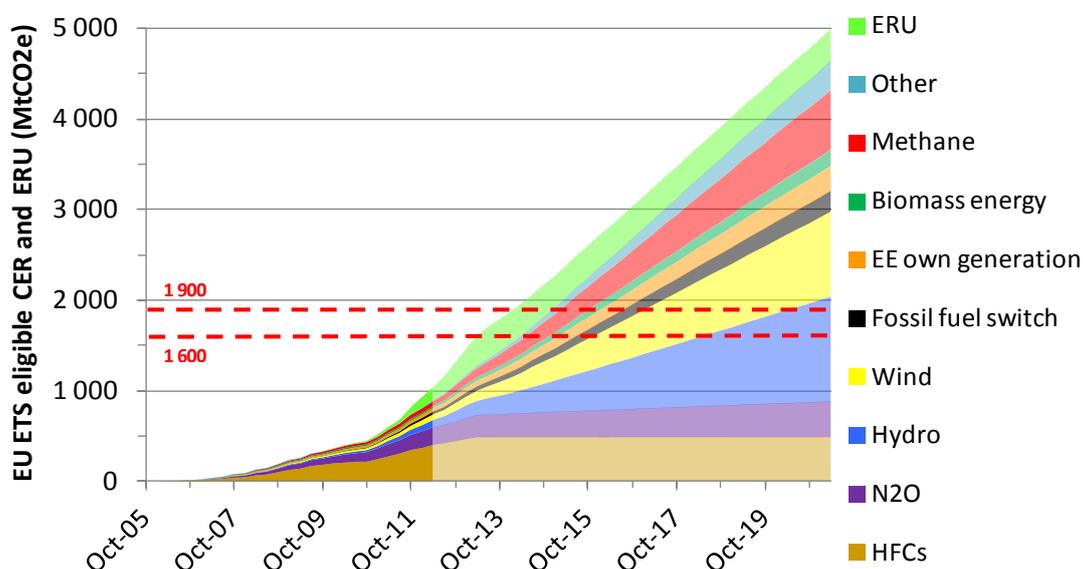
The short and medium-term CER supply is very predictable, due to two features in the Clean Development Mechanism (CDM):

- most projects display a relatively high level of capital expenditure (CAPEX) compared to their operation expenditure (OPEX). For industrial projects, which account for 73% of the CERs delivered to date, verification, for example, only costs a few euro cents per CER. Once the project has been launched, and the CAPEX has been incurred, only a very low price - a few tens of euro cents per CER - would justify putting the project on hold.
- CDM projects and their state of progress are extremely well documented, and all the project documents and emission data are publicly available.

Based on these two features, CDC Climat Research has developed a model that forecasts CER supply, based on a statistical estimate of the risk factors for each stage of a CDM project (Cormier and Bellassen, 2012). **The model forecasts an aggregate CER issuance of around 1.3 billion tCO<sub>2</sub>e by April 1, 2013.**

The principles of this model have been extended to Joint Implementation (JI). The extension is less reliable, as JI is a mechanism that is less well documented, and is subject to unforeseeable movements on the part of some countries, like Russia (Shishlov, 2011). **Our model base-case scenario for JI is forecasting the issuance of 350 million tCO<sub>2</sub>e by April 1<sup>st</sup> 2013** (Shishlov et al., 2012). In the absence of any tangible information regarding the use of JI after 2013, the model is not forecasting any new issuances after this date, which is a conservative assumption.

**Figure 1 – Issuance and forecast issuance of EU ETS-eligible Kyoto offsets**



Source: CDC Climat Research.

Note 1: The qualitative restrictions imposed in Europe from 2013 onwards (industrial gas destruction projects, new projects originating from less-developed countries only, etc.) are taken into account in this forecast. For instance, all CERs issued by industrial gas projects after April 1st 2013 are not included in the curve.

Note 2: The model has proven reasonably reliable on the medium-term (0-3 years ahead). On a longer term however, several factors such as CER prices or regulatory changes can no longer be neglected. Post-2015 forecasts are therefore deemed highly uncertain.

## News: demand for Kyoto credits will be saturated by 2013-2014 and drive down the CER price

Since the “CDM cargo” is not likely to decelerate quickly, even following a fall in prices, the CER and ERU supply should reach the maximum 1.6 billion tCO<sub>2</sub>e demand level by 2013-2014 according to CDC Climat Research’s models (see Figure 1).

The effective satisfaction of demand will nonetheless probably be spread over time, as the players subject to a constraint under the EU ETS, or countries subject to constraints on their emissions may want to retain an option value, by retaining the option to use their Kyoto credits over time.

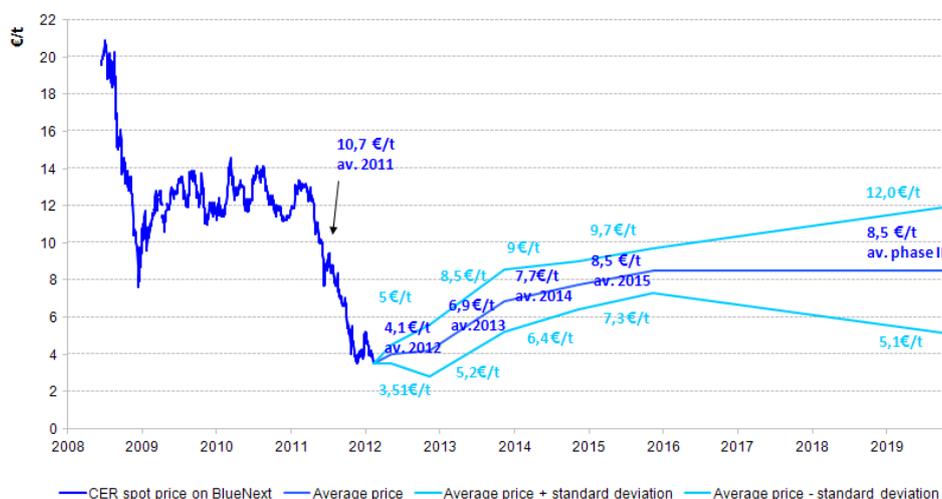
### Decorrelation of the CER and ERU price and the EUA price in the medium term

The limit for credit use adds a very specific feature to the elasticity of demand. Demand reacts to the price of short-term credits in both directions; in the medium term however, once the limit has been reached, there will be no further demand, regardless of the credit price.

Although it appears possible to base the analysis of credit supply and demand on sound fundamentals, the same does not apply to the price, which depends on a number of qualitative factors, including imperfect market information.

Despite being very low, the CER price currently remains correlated to the EUA, as the EU ETS is still the only significant short-term source of demand. The analyst forecasts collected by Thomson Reuters point to a consensus price of € 4,2 per CER by the end of 2012, gradually rising to 8,5 € over phase 3 (Figure 2).

Figure 2 – Collation of CER price forecast



Source: Thomson Reuters (survey dated April 4<sup>th</sup> 2012)

These two elements, which are apparently in contradiction with a virtually unavoidable extinction of demand, reflect the imperfect information situation, whereby most players appear not to be aware of the risk, and still take the view that the CER is and will remain partially fungible with the EUA.

Despite our limited understanding of the rationale behind these price forecasts points, we see two possible reasons explaining our disagreement:

- the CER price is still pegged to the EUA price in the forecasts, showing that the specificities of the CER markets are not reflected;
- and most of the CER supply models behind these forecasts are repeating past levels CER issuances, therefore neglecting the ability of the CDM EB to cope with an ever increasing amount of issuance requests.

Moreover, data on the volume of trade seem to show that some market players are beginning to become aware of the situation: the volume of future contracts for a CER delivery in December 2013 (“Dec 13”) traded on ECX has consistently been 2,5 times lower than the volume of “Dec 12” contracts for the previous year (e.g. average “Dec 12” volume in 2010 vs. average “Dec 13 volume” in 2011). Although factors such as the economic crisis may play a role, such a large difference points to a diminishing interest in CERs with a medium-term delivery date.

We expect that this risk awareness will spread to all market players, either gradually or suddenly, resulting in an **even more marked decorrelation of CER and ERU prices with the EUA price**. This decorrelation will reflect the uselessness of CERs and ERUs for European industrial companies that have exhausted their Kyoto credits usage limit. The exact timing and speed of this decorrelation is difficult to anticipate.

**With a lesser degree of certainty, we believe that this decorrelation will occur at the expense of the CERs and of ERUs (increase in the EUA-CER and EUA-ERU spreads)**, since the only remaining buyers will be few and far between (a few European countries and Japanese buyers), and their demand will be low due to the economic downturn.

Lastly, **the very concept of a “CER price” could be called into question**: in an illiquid market, which will mostly be based on tenders from countries that may include specific qualitative clauses, **the future CER-ERU market could resemble today’s AAU market, namely with varying prices negotiated on a case-by-case basis, and no listed prices**. Demand from Australia and New Zealand could nonetheless support a market price, on volumes that are much lower than those traded on the EU ETS.

### ***The variants of our base-case scenario do not alter our conclusion***

The proposed analysis sets out the scenario that we believe to be the most likely. Several events, which are more or less likely, could affect this base-case scenario.

- **Abolition of the Chinese floor price could accelerate the fall in prices:** China, which generates around 60% of CERs, set a floor price of €7.00 per CER for ERPA that include a foreign buyer. This floor could amount to a limit on supply. Nonetheless, prices have remained below this so-called floor price for over 5 months, which confirms the experts’ assertions that it is hard to make people comply with the floor in practice. In addition, China has recently lowered the floor from €8.00 per CER to €7.00. Given that most Chinese CDM projects have been financed by Chinese investors (Shen, 2011), it is possible that China will abandon its floor completely, like Russia, in order to avoid investors losing the whole of their investment.
- **An extension to the limit for using Kyoto credits for installations subject to the ETS would boost demand.** The 2009 revised directive on the EU ETS sets the minimum limit for credit use, but the actual limit should be set this year through comitology. A significant rise of the limit is highly unlikely in an environment where EUA prices are low and the European allowance supply is surplus to demand, unless the EU revises its 2020 target. This last scenario is relatively unlikely, in our opinion.
- **Early exogenous demand could boost demand:** at present, the main sources of additional demand for CERs, aside from European demand, will emerge between now and 2015, with the introduction of allowance trading systems in China and Australia. However, China has not yet published any regulations on the use of CERs. Australia, in contrast, has approved a regulatory framework that makes the country a source of demand, estimated at 100 million tCO<sub>2</sub>e per year from 2015 onwards. However, the stability of this framework may be called into question if Australia remains the only source of demand in 2015, as the imbalance between supply and demand would be so great that it would probably make Australia reconsider its decision. It therefore seems unlikely that the timetable will accelerate, either due to regulatory progress, or to anticipation on the part of market players, so as to generate additional demand to that which exists between now and 2015.

- **Country commitments outside the framework of the second Kyoto Protocol Commitment Period from 2012 onwards could also boost demand.** Some countries, particularly Japan, may have demand for CERs or ERUs after 2012, even if they have already announced that they wanted to remain outside the Kyoto Protocol's Second Commitment Period. This demand might be considerable, even if the liquidity of such a market would not be in any way comparable with that of the EU ETS.
- **The non-usage of emission reductions generated in China after 2012**, either because China refuses to issue letters of approval for projects on its territory, or because the EU refuses the importation of Chinese credits. Such a scenario would reduce supply over the long-term, but not over the medium-term, **and does not alter our expectations.**
- **If 100 % of the import limit is used by EU ETS installations** – compared with 80% in our scenario – an additional demand reserve of 300 million tCO<sub>2</sub>e will be created, **postponing the end-date to April 2014** in our model.

### **New developments support our assessment**

Although the scenario we are presenting on the Kyoto credit supply/demand balance is not new, several recent developments increase the likelihood of this scenario occurring, in our view:

- On the demand side, other sources of significant demand (the United States and China), which could have emerged, appear unlikely to emerge in the medium term;
- On the supply side, the CDM Executive Board's ability to handle CER issuance applications within an acceptable timeframe, which was viewed until recently as a major potential obstacle by most observers, has not been at fault, as proved by CER issuances over the last few months;
- Still on the supply side, JI has been neglected up until now, as it issued a small quantity of ERUs. ERU issuances nonetheless took off in 2011, due primarily to Russia waking up. Our ERU supply model is therefore relatively recent (October 2011);
- Lastly, the approach of the end-date makes our model's forecast more likely for two reasons. On the one hand, we are observing on a monthly basis that the supply model that we have built is sound in the short and medium term. On the other, the reaching of the qualitative demand level now falls within the time horizon (2-3 years), for which we believe that our supply model is reliable.

### **Ways out of the conundrum**

If our analysis is correct, the consequences would be threefold. First, qualitative restrictions on the EU ETS as of 2013 will have little if no impact at all on the supply-side of the CDM and of JI, since demand will most likely be covered to a large extent by then. Second, there will be very little – if any – room in the EU ETS for credits stemming from projects hosted by Least-Developed Countries, which in turn means that access to carbon finance for those projects could end up looking like fool's gold. And third, the contribution of the EU to the Green Climate Fund through the CDM would as a consequence be rather limited, which means that other sources of funding would have to be unveiled. Finance for low-carbon projects in developing countries and most notably LDCs could be entering dire straits.

Following are three suggested ways out of the conundrum:

- *Putting CDM and JI on life-support in the EU ETS in the short term:* a complete lifting of quantitative restrictions on credit use seems out of the question given that the market is largely oversupplied. However, a small additional *right of use* targeted on a limited number of host countries – such as LDCs and EU ETS participating countries – could keep the mechanisms going, although at a much slower pace. It would neither bring a large additional supply to the ETS nor avoid the collapse of investment in the CDM. Such a move would be in line with the

objectives of the recent qualitative restrictions issued by the EU, namely focusing CDM investment in targeted countries;

- *Outlining predictable and repeated sources of demand in the medium term:* one of the reasons for the upcoming crisis is that the initially large right of use of Kyoto credits in the EU ETS – 13.5% of the 2008-2012 allocation on average – plummeted to a small additional 0.9% of the same 2008-2012 allocation over 2013-2020, and that the overall demand for CERs and ERUs is finite. Had the right of use been spread out to lower average levels, supply would probably have decreased gradually to adjust to demand. Future sources of demand – be they the EU ETS or other regional markets – may therefore want to adopt a more gradual approach to quantitative limits, and set a total demand for CERs and ERUs that would be perceived by market players as infinite (e.g. set a use limit on CERs and ERUs as a percentage of emissions);
- *Unless a large demand unfolds, wipe the slate clean:* unless large sources of demand are created in the medium term, foreseen sources – such as the Australian ETS – will need to restrict the usage of CERs and ERUs – for example through restrictions on credit vintage – to avoid being drowned by oversupply from existing projects and to maintain an incentive to invest in new projects.

## To find out more...

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